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# Alternative Financing Track: Measurement & Verification Planning - ESCO Perspective

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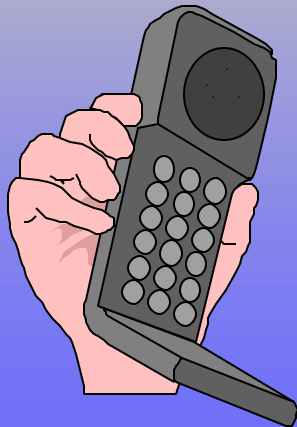
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# Why is M&V Planning Necessary ?

## Structure of ESPC necessitates M&V Planning

- Project proposed for monthly or annual contract payments over a multi-year term in exchange for guaranteed savings
- Verification of guaranteed savings results in contract payments
- Contract payments used to pay debt service to lender and used to pay ESCO for ongoing, performance period services e.g. O&M
  - M&V Plan consists of measuring, verifying and documenting monthly, quarterly, annual data or one-time measurements, and their correlation with performance and cost savings
  - Pre-retrofit (baseline) M&V data is validated as part of project proposal development
  - Post-retrofit data is validated by implementation of M&V Plan



## Why is M&V Planning Necessary?

### **ESPC Development Process complexities necessitate M&V Planning**

- Project proposed to ‘customer’ through one or more proposals
- M&V planning and decision making is iterative over the development cycle
- ‘Customer’ may be comfortable with notion that ESCO is the M&V expert, however, ESCO benefits if ‘Customer’ participates in M&V decision making
- Selection of M&V options reflect ‘risk shared’ between ESCO and ‘Customer’



## How do you develop a winning M&V Plan?

### **Make the Process Well Understood**

- **Identify** and develop a list of project and ECM level **objectives and constraints** that relate to M&V of savings
- **Evaluate project level objectives and constraints** to assess M&V options. Determine if a single M&V option can be used and is desirable for the entire project or if a more custom M&V approach is required for the proposed set of ECMs
- **Evaluate the objectives and constraints separately for each ECM** in relation to the selected M&V option(s)



## How do you develop a winning M&V Plan?

### **Make the Process Well Understood (cont'd)**

- **Evaluate** the **savings risk** associated with the selected M&V option(s)
- **Estimate** the **cost** of using the selected M&V option(s) in relation to savings risks
- **Assess whether** the project requirements and **savings risk justify the M&V expenses**
- If all the M&V requirements are met and the savings risk justify the M&V expenses, **finalize the M&V plan** for the project



## Which M&V Plans work?

### **M&V Plan with contents tailored to Project Objectives**

- Guidelines and protocols (IPMVP, FEMP, ASHRAE 14) available to help develop good M&V plans
- Guidelines are not prescriptive and provide flexibility for ‘application’ and ‘interpretation’
- Where common sense prevailed in writing M&V plans
- Short & long term project objectives are reflected in M&V plans
- Project requirements and savings risk justify the M&V expenses